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(FILE 'HOME' ENTERED AT 16:09:07 ON 31 OCT 2001)

FILE 'REGISTRY' ENTERED AT 16:09:34 ON 31 OCT 2001 3 S XYLANASE/CN

INDEX 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHOS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 16:09:58 ON 31 OCT 2001

SEA L1

L1

0* FILE ADISALERTS

956 FILE AGRICOLA

7 FILE ANABSTR

0* FILE AQUASCI

625 FILE BIOBUSINESS

0* FILE BIOCOMMERCE

1693 FILE BIOSIS

0* FILE CABA

5 FILE CANCERLIT

0* FILE CAPLUS

0* FILE CEABA-VTB

4 FILE CEN

19 FILE CIN

0* FILE CONFSCI

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0* FILE DDFB

0* FILE DDFU

0* FILE DGENE

0* FILE DRUGB

0* FILE DRUGU

0* FILE EMBAL

0* FILE ESBIOBASE

0* FILE FOMAD

0* FILE FOREGE

0* FILE FROSTI

0* FILE GENBANK

0* FILE HEALSAFE

0* FILE IFIPAT

0* FILE KOSMET

0* FILE LIFESCI

0* FILE MEDICONF

500 FILE MEDLINE

1 FILE NIOSHTIC

0* FILE NTIS

0* FILE OCEAN

0* FILE PASCAL

0* FILE PHIC 0* FILE PHIN

39 FILE PROMT

0* FILE SCISEARCH

0* FILE USPATFULL

1 FILE WPIDS

1 FILE WPINDEX

QUE L1

L2

L3

FILE 'BIOSIS, AGRICOLA, BIOBUSINESS, MEDLINE, PROMT, CIN, ANABSTR, CANCERLIT, CEN, NIOSHTIC, WPIDS' ENTERED AT 16:20:44 ON 31 OCT 2001

FILE 'REGISTRY' ENTERED AT 16:21:04 ON 31 OCT 2001 SET SMARTSELECT ON SEL L1 1- CHEM: 62 TERMS

L1 1- CHEM : 62 TERMS
SET SMARTSELECT OFF

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•	CANCERLIT, CEN, NIOSHTIC, WPIDS' ENTERED AT 16:21:07 ON 31 OCT 2001
L4	6917 S L3
L5	503 S L4 (L) INHIBIT?
L6	46 S L5 (L) PLANT
L7	16 S L6 AND PY<=1997
L8	13 DUP REM L7 (3 DUPLICATES REMOVED)

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110 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS ACCESSION NUMBER: 2000:116783 HCAPLUS

DOCUMENT NUMBER: 132:150921

TITLE: A novel class of xylanase inhibitor proteins

INVENTOR(S): Hessing, Martin; Happe, Randolph Peter
PATENT ASSIGNEE(S): Nederlandse Organisatie Voor ToegepastNatuurwetenschappelijk Onderzoek TNO, Neth.

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: English

INT. PATENT CLASSIF.:

MAIN:

C07K014-415

SECONDARY: C12N009-24; A23L001-105; C07K001-36; C07K016-16;

G01N033-53

CLASSIFICATION: 17-6 (Food and Feed Chemistry)

Section cross-reference(s): 7, 43

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

ABSTRACT:

The invention relates to a novel class of xylanase-inhibiting proteins, capable of forming a stable complex with endo-xylanases, thereby inactivating the latter. These xylanase-inhibiting proteins are obtainable by extn. of cereals such as wheat, corn, barley, triticale, rice, rye, oat, and legumes such as soybeans. The inhibitors can be applied as stabilizing agents to xylan-degrading enzymes used for industrial processes, e.g for food, feed and non-food applications as paper and pulp technol. Furthermore, the invention relates to strain improvement of industrial xylanase-producing organisms as well as to the selection of cereals, in particular wheat, in which xylanase-inhibiting proteins are absent. Finally the invention relates to quantification and control of xylanase inhibitors for assuring effective and controlled dosing of xylanases applied for various industrial processes.

SUPPL. TERM: xylanase inhibitor protein food pulp industry; feed industry

xylanase inhibitor protein; paper industry xylanase

inhibitor protein; xylose manuf xylanase inhibitor protein

INDEX TERM: Antibodies

ROLE: IMF (Industrial manufacture); PREP (Preparation) (anti-xylanase-inhibiting protein; novel class of xylanase-inhibiting proteins for the food and paper

industries)

INDEX TERM: Aspergillus niger

Bakery products

Biocides Bread Brewing

Cellulose pulp Cereal (grain) Feed additives Food additives Humicola insolens

Paper

Stabilizing agents

Trichoderma longibrachiatum

Trichoderma viride

Wheat

Wheat bran

(novel class of xylanase-inhibiting proteins for the food and paper industries)

Protein sequences (of xylanase-inhibiting protein from wheat bran) 型DEX TERM: Bleaching agents (paper; novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: Nucleic acids ROLE: BUU (Biological use, unclassified); FFD (Food or feed use); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses) (xylanase-inhibiting protein-encoding; novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: Proteins, general, biological studies ROLE: BUU (Biological use, unclassified); FFD (Food or feed use); PRP (Properties); BIOL (Biological study); USES (Uses) (xylanase-inhibiting; novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: Microorganism (xylanase-producing; novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: 257625-59-5 ROLE: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence) (amino acid sequence of peptide fragment; novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: 9001-06-3, Chitinase ROLE: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence) (novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: 9014-63-5, Xylan 37278-89-0, Endo-xylanase ROLE: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (novel class of xylanase-inhibiting proteins for the food and paper industries) INDEX TERM: 58-86-6P, Xylose, preparation ROLE: IMF (Industrial manufacture); PREP (Preparation) (novel class of xylanase-inhibiting proteins for the food

and paper industries)

REFERENCE COUNT:

3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD.

REFERENCE(S):

- (1) Debyser; JOURNAL OF THE AMERICAN SOCIETY OF BREWING CHEMISTS 1997, V55(4), P153 HCAPLUS
- (2) Jerome, S; WO 9805788 A 1998 HCAPLUS
- (3) Mampusta, M; WO 9629416 A 1996 HCAPLUS

=> d ibib ab 1-13

L8 ANSWER 1 OF 13 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1997-434739 [40] WPIDS

DOC. NO. NON-CPI: N1997-361667 DOC. NO. CPI: C1997-139401

TITLE: Production of taxane(s) having antitumour activity and used to treat poly-cystic kidney disease - by extraction

of Coniferales tissues other than Taxus tissues and identification of sources of taxane(s) by contacting these tissues with antibody which reacts with taxane(s).

DERWENT CLASS: B02 B05 D16 S03

INVENTOR(S): DURZAN, D J; VENTIMIGLIA, F; VENTIMIGLIA, F F

PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA

COUNTRY COUNT: 76

PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 9730352 A1 19970821 (199740) * EN 22 <--

RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU

US 5670663 A 19970923 (199744) 5 <--AU 9722662 A 19970902 (199751) <--EP 882231 A1 19981209 (199902) EN

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

US 5955621 A 19990921 (199945)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9730352	A1	WO 1997-US2069	19970213
US 5670663	Α	US 1996-601367	19960214
AU 9722662	Α	AU 1997-22662	19970213
EP 882231	A1	EP 1997-905879	19970213
		WO 1997-US2069	19970213
US 5955621	A Div ex	US 1996-601367	19960214
		US 1997-845516	19970424

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9722662	A Based on	WO 9730352
EP 882231	A1 Based on	WO 9730352
US 5955621	A Div ex	US 5670663

PRIORITY APPLN. INFO: US 1996-601367 19960214; US 1997-845516

19970424

AB WO 9730352 A UPAB: 19971006

Production of taxanes comprises contacting plant tissues from a member of the order Coniferales (other than Taxus spp.) with a composition which extracts taxanes. Also claimed are: (1) a taxane composition obtained by the method above, and (2) is a method for screening plant tissue for the presence of taxanes comprising: (a) contacting plant tissue, or an extract of the plant tissue, with an antibody that is specifically reactive with a taxane, and (b) detecting the formation of an antigen-antibody complex. The plant tissue is from a member of the order Coniferales other than Taxus spp.

In production of taxanes, the composition which extracts taxanes is an organic solvent, especially methanol. The **plant** tissue is bark, stem or needle tissue, or may be from a tissue culture. The **plant** tissue is from Picea, Fitzroya or Cupressus. Recovering the taxanes includes releasing bound taxanes by treating the tissue with a

qlycosidase (especially xylanase). The antibody is a monoclonal antibody (especially selected from 3C6, 8A10 and 3H5) or a polyclonal antiserum. The extract of the tissue is a methanolic extract. The antigen-antibody complex is detected by determination by competitive inhibition of an enzyme linked immunoassay.

USE- Taxanes (especially paclitaxel) have significant antitumour activity and may also be used in treatment of polycystic kidney disease.

ADVANTAGE - The processes allow detection and exploitation of new sources of taxanes, thus facilitating investigations to synthesise new paclitaxel analogues.

Dwg.0/0

ANSWER 2 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS L8 DUPLICATE 1

1998:126705 BIOSIS ACCESSION NUMBER: DOCUMENT NUMBER: PREV199800126705

Elicitor-induced changes of phenylalanine ammonia-lyase TITLE:

activity in barley cell suspension cultures.

Peltonen, Sari (1); Mannonen, Leena; Karjalainen, Reijo (1) AUTHOR (S): (1) Dep. Plant Biol., Sect. Plant Pathol., P.O. Box 28, CORPORATE SOURCE:

FIN-00014 University of Helsinki, Helsinki Finland

Plant Cell Tissue and Organ Culture, (1997) Vol. 50, No. 3, SOURCE:

pp. 185-193. ISSN: 0167-6857.

DOCUMENT TYPE: Article LANGUAGE: English

Suspension-cultured barley cells responded to treatments with crude yeast extract and purified glucan preparation by rapidly and transiently (4 h postelicitation) inducing L-phenylalanine ammonia-lyase activity. Similarly, treatment of cell cultures with chitosan resulted in increased phenylalanine ammonia-lyase activity 2-4 h after elicitation, whereas a mycelium preparation of a fungal pathogen, Bipolaris sorokiniana, and purified chitin caused a more delayed induction of phenylalanine ammonia-lyase (8 h postelicitation). The most abundant of the plant cell wall degrading enzymes produced by Bipolaris sorokiniana, beta-1,4-xylanase, had only a weak elicitor activity in barley cells suggesting that fungal cell wall components rather than the hydrolytic enzymes secreted by the fungus function as recognizable components that cause barley cells to induce defences. Treatment of the elicited cells with a phenylalanine ammonia-lyase inhibitor, alpha-aminooxy-beta-phenylpropionic acid, resulted in the superinduction of the enzyme indicating the blocking of the feedback regulation mechanisms, whereas in the presence of 1 mM trans-cinnamic acid the elicitor-induction of phenylalanine ammonia-lyase was completely inhibited. Elicitor treatments increased the accumulation of wall-bound phenolics as evidenced by phloroglucinol-HCl staining and thioglycolic acid methods. However, alpha-aminooxy-beta-phenylpropionic acid applied in combination with the elicitor did not prevent the accumulation of phenolics in barley cell walls. This suggested that phenylalanine ammonialyase might not play an important role in the synthesis wall-bound phenolic compounds in barley. However, cinnamic acid, whether applied alone or together with the elicitor, increased the amount of wall-bound phenolics in suspension-cultured barley cells.

ANSWER 3 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 1999:211972 BIOSIS DOCUMENT NUMBER: PREV199900211972

TITLE: Effect of phenolic compounds on the growth of Aspergillus

niger and activity of hydrolytic enzymes.

AUTHOR (S): Jecu, Luiza (1)

(1) Research Institute for Chemistry, Spl. Independentei CORPORATE SOURCE:

202, Bucharest Romania

SOURCE: Revue Roumaine de Biochimie, (Jan.-Dec., 1997)

Vol. 34, No. 1-4, pp. 99-102.

ISSN: 0001-4214.

DOCUMENT TYPE: Article LANGUAGE: English

Various types of lignocellulosic materials, such as straw and sawdust, represent available substrates for enzymes production. However, these substrates often contain phenolic monomers that are released during the action of pretreatment agents. Several of these monomeric phenols inhibit both the fungal growth and the activities of hydrolytic enzymes which catalyse the breakdown of the cellulolytic constituents of plant cell wall. The effects of vanillin, vanillic acid and guaiacol on the growth and enzymatic activities of Aspergillus niger cellulase (determined as carboxymethylcellulase) and hemicellulase (determined as xylanase) were evaluated. The phenolic compounds varied in their ability to inhibit these enzymes, vanillin being the most active. Marked inhibitions of the fungal growth and enzyme activities were observed with vanillin.

L8 ANSWER 4 OF 13 PROMT COPYRIGHT 2001 Gale Group

ACCESSION NUMBER: 95:160994 PROMT

TITLE: THRESHOLD OF REGULATION FINAL RULE EXPECTED THIS SUMMER

SOURCE: Food Chemical News, (27 Mar 1995) pp. N/A.

ISSN: 0015-6337.

LANGUAGE: English WORD COUNT: 2741

FULL TEXT IS AVAILABLE IN THE ALL FORMAT

AB The Food and Drug Administration's final rule for its proposed threshold of regulation is expected to be published this summer, an FDA-er said last week. The proposed rule, published Oct. 12, 1993 in the Federal Register, would exempt indirect food additives that cause up to 0.5 ppb dietary concentration in foods (or dietary exposure levels at or below 1.5 micrograms per person/day) from food additive petition requirements (See FOOD CHEMICAL NEWS, Oct. 11, 1993, Page 73; Oct. 18, 1993, Pages 12 and 37).

The proposal also would approve a regulated direct food additive if the dietary exposure to the substance resulting from the proposed use is less than 1% of the average daily intake (ADI).

Threshold of Regulation Rule Already in Trial Use at OPA

The threshold of regulation for indirect food additives has been used on a trial basis by FDA's Office of Premarket Approval for over a year, "no objection" letters released under a FOOD CHEMICAL NEWS Freedom of Information Act request show. Once a final rule is published for the threshold of regulation, the "no objection" letters will be available at FDA's dockets management branch, an FDA-er noted. OPA plans to publish a short notice every six months or once a year letting people know the list of "no objection" documents is available and kept updated, a staffer said. It has not been decided whether OPA or the dockets management branch will keep the list, an FDA-er added.

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L8 ANSWER 5 OF 13 BIOBUSINESS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 95:9271 BIOBUSINESS

DOCUMENT NUMBER: 0682946

TITLE: A thermostable xylanase from Clostridium thermocellum

expressed at high levels in the apoplast of transgenic tobacco has no detrimental effects and is easily purified.

AUTHOR: Herbers K; Wilke I; Sonnewald U

CORPORATE SOURCE: Inst. fuer Pflanzengenetik und Kulturpflanzenforschung,

Corrensstr. 3, D-06466, Gatersleben, Germany. Bio-Technology (New York), (1995) Vol.13, No.1,

Jan., P.63-66.

ISSN: 0733-222X.

FILE SEGMENT: UNIQUE LANGUAGE: ENGLISH

SOURCE:

We expressed a truncated version of the Clostridium thermocellum xylanase (xynZ) gene in transgenic tobacco plants. High levels of the 37 kD protein were synthesized and correctly targeted to the intercellular space by means of the proteinase inhibitor II signal peptide. The protein was one of the most abundant proteins in total extracts that were not protected against proteolysis. Enzyme extracted from leaves retained its activity and hydrolyzed xylan efficiently to xylo-oligomers and xylose. Enzymatic activity could be enriched about 14 to 31-fold after heat-treatment with essentially complete recovery. The transgenic plants, grown under greenhouse conditions, were not affected by the foreign enzyme, possibly due to the high temperature

optimum (70 degree Celsius) of the **xylanase** and low levels of xylan in dicotyledons. These **plants** might be useful for production of the enzyme which has numerous applications of the paper industry and agriculture.

L8 ANSWER 6 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 2

ACCESSION NUMBER: 1993:347634 BIOSIS DOCUMENT NUMBER: PREV199396044634

TITLE: Ethylene signal is transduced via protein phosphorylation

events in plants.

AUTHOR(S): Raz, Vered; Fluhr, Robert (1)

CORPORATE SOURCE: (1) Dep. Plant Genetics, Weizmann Inst. Science, P.O. Box

26, Rehovot 76100 Israel

SOURCE: Plant Cell, (1993) Vol. 5, No. 5, pp. 523-530.

ISSN: 1040-4651.

DOCUMENT TYPE: Article LANGUAGE: English

English A plethora of abiotic and biotic environmental stresses exert their influence on plants via the gaseous hormone ethylene. In addition, aspects of plant development and climacteric fruit ripening are regulated by ethylene. Sensitivity to ethylene is presumably mediated by a specific ethylene receptor whose activation signal is then transduced via an unknown cascade pathway. We have used the plant pathogenesis response, exemplified by the induction of pathogenesis-related (PR) genes, as a paradigm to investigate ethylene-dependent signal transduction in the plant cell. Ethylene application induced very rapid and transient protein phosphorylation in tobacco leaves. In the presence of the kinase inhibitors H-7 and K-252a, the transient rise in phosphorylation and the induced expression of PR genes were abolished. Similarly, these inhibitors blocked the response induced by an ethylene-dependent elicitor, alpha-AB. Reciprocally, application of okadaic acid, a specific inhibitor of phosphatases type 1 and type 2A, enhanced total protein phosphorylation and by itself elicited the accumulation of PR proteins. In the presence of H-7 and K-252a, PR protein accumulation induced by okadaic acid was blocked. In contrast to the action of ethylene and alpha-AB, xylanase elicits the accumulation of PR protein by an ethylene-independent pathway. Xylanase-induced PR protein accumulation was not affected by H-7 and K-252a. The results indicate that responsiveness to ethylene in leaves is transduced via putative phosphorylated intermediates that are regulated by specific kinases and phosphatases.

L8 ANSWER 7 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 1992:414779 BIOSIS

DOCUMENT NUMBER: BA94:77979

TITLE: EFFECT OF THE FUNGICIDE BENOMYL ON CELL WALL DEGRADATION BY

SOME FUNGI.

AUTHOR(S): ABDEL-RAHMAN T M A

CORPORATE SOURCE: DEP. BOTANY, FAC. SCI., UNIV. CAIRO, GIZA, EGYPT.

SOURCE: ZENTRALBL MIKROBIOL, (1992) 147 (5), 329-339.

CODEN: ZEMIDI. ISSN: 0232-4393.

FILE SEGMENT: BA; OLD LANGUAGE: English

The fungicide benomyl significantly inhibited tomato and cotton cell wall degradation and growth of Fusarium oxysporum f. sp. vasinfectum, F. oxysporum f. sp. lycopersici and Aspergillus fumigatus. Tomato cell wall degrading enzymes were more susceptible to inactivation by the fungicide than cotton degrading enzymes in the tested fungi. Mycelial growth rate of the three fungi was greater on tomato than on cotton wall containing media. Extracellular enzymes in the culture filtrate of F. oxysporum f. sp. vasinfectum growth on cotton cell wall preparation as a carbon source were more active in degrading cotton wall substrate in the reaction mixture and less susceptible to benomyl inhibition than the other species. The same was true for F. oxysporum f. sp. lycopersici grown on tomato cell walls. A. fumigatus possessed the least enzymatic activity in cell wall preparations of both plants. Benomyl concentration which inactivated wall degrading enzymes led also to inhibition in fungal growth. The testet species release glucose,

galactose, arabinose, xylose and mannose from cotton and tomato cell wall polysaccharides under control conditions. Addition of benomyl at concentrations from 75 to 600 ppm to cotton or tomato cell wall containing reaction mixtures was coupled with failure of detecting xylose, mannose and arabinose in the samples with the three fungi. Glucose and galactose production were less sensitive to the fungicide. The polysaccharide enzyme assay revealed the presence of cellulase, arabanase, galactanase, mannanase and xylanase activities in the culture filtrates of all fungi under control conditions. Benomyl at 75 ppm completely inhibited the activity of xyalanase, mannanase and arabanase while cellulase and galactanase were more tolerant. The dose of benomyl which inactivated cellulase and galactanase was the lethal for fungal growth.

L8 ANSWER 8 OF 13 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1991-193203 [26] WPIDS

KIND DATE

DOC. NO. NON-CPI: N1991-147893 DOC. NO. CPI: C1991-083664

TITLE: Inhibition of prodn. of gene prods. in plant cells - esp.

useful to control fruit ripening in tomatoes.

PG

DERWENT CLASS: D16 P13

INVENTOR(S): BRIDGES, I G; GRIERSON, D; SCHUCH, W W; SCHUCH, W PATENT ASSIGNEE(S): (ICIL) IMPERIAL CHEM IND PLC; (ZENE) ZENECA LTD

WEEK

COUNTRY COUNT: 34

PATENT INFORMATION:

PATENT NO

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	RO SD	SE SU US				
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z_{A}	9009614	A 19911030	(199148)	<		
ΕP	502995	A1 19920916	(199238)	EN 44 <		
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US	5296376	A 19940322	(199411)	12 <		
ΑU	646422	B 19940224	(199413)	<		
WO	9108299	A3 19910711	(199508)	<		
US	5413937	A 19950509	(199524)	11 <		
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DE	69027996	E 19960905	(199641)	<		
ES	2090304	T3 19961016	(199647)	. <		
JP	3074018	B2 20000807	(200042)	16		

LΑ

APPLICATION DETAILS:

PAT	TENT NO	KIND	APPLICATION	DATE
WO	9108299	А	WO 1990-GB1827	19901126
ZA	9009614	A	ZA 1990-9614	19901129
ΕP	502995	A1	WO 1990-GB1827	19901126
			EP 1991-901444	19901126
BR	9007881	A	BR 1990-7881	19901126
			WO 1990-GB1827	19901126
JP	05504056	W	WO 1990-GB1827	19901126
			JP 1991-501854	19901126
US	5296376	A CIP of	US 1987-119614	19871112
			US 1990-621714	19901205
ΑU	646422	В	AU 1991-69745	19901126
WO	9108299	A3	WO 1990-GB1827	19901126
US	5413937	A CIP of	US 1987-119614	19871112
		Cont of	US 1990-621714	19901205
			US 1993-162275	19931207
ΕP	502995	B1	WO 1990-GB1827	19901126
			EP 1991-901444	19901126
DE	69027996	E	DE 1990-627996	19901126

WO 1990-GB1827 19901126 EP 1991-901444 19901126 EP 1991-901444 19901126 WO 1990-GB1827 19901126 JP 1991-501854 19901126

FILING DETAILS:

ES 2090304

JP 3074018

Т3

B2

PATENT NO	KIND		PAT	TENT NO
EP 502995	A1	Based on	WO	9108299
BR 9007881	Α	Based on	WO	9108299
JP 05504056	W	Based on	WO	9108299
AU 646422	В	Previous Publ	L. AU	9169745
		Based on	WO	9108299
US 5413937	Α	Cont of	US	5296376
EP 502995	B1	Based on	WO	9108299
DE 69027996	E	Based on	EP	502995
		Based on	WO	9108299
ES 2090304	Т3	Based on	EP	502995
JP 3074018	B2	Previous Publ	L. JP	05504056
		Based on	WO	9108299

PRIORITY APPLN. INFO: GB 1989-27048 19891130; WO 1990-GB1827 19901126

AB WO 9108299 A UPAB: 19941115

Process for the inhibition of the prodn. of a target gene prod.
(I) in a plant cell comprises generating in the cell while the target gene is being expressed mRNA from recombinant DNA coding for part only of (I). Novel constructs are provided comprising recombinant DNA coding for part only of a target gene naturally expressed in a cell, which DNA is expressed under the control of a promotor sequence operative in plant cells. The constructs pref. have the structure of pJR16S.

Pref. (I) is a fruit-ripening enzyme, e.g. pectinesterase, galactosidase, glucanase, xylanase or cellulase, or polygalacturonase (PG). USE/ADVANTAGE - As well as its use for controlling fruit ripening processes, the method may be used to inhibit other gene prods., such as those which are unwanted in the crop (e.g. toxins) or those whose redn. can contribute to improved plant characteristics, such as yield, field performance or prod. quality. For controlling fruit repening processes, the method is applicable to e.g. melons, peaches, bananas, apples, strawberries, kiwi fruit and esp. the tomato. @(44pp Dwg.No.0/2)@

L8 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 1991:430688 BIOSIS

DOCUMENT NUMBER: BA92:86853

TITLE: PURIFICATION AND COOPERATIVE ACTIVITY OF ENZYMES

CONSTITUTING THE XYLAN-DEGRADING SYSTEM OF

THERMOMONOSPORA-FUSCA.

AUTHOR(S): BACHMANN S L; MCCARTHY A J

CORPORATE SOURCE: DEP. GENETICS MICROBIOL, . UNIV. LIVERPOOL, P.O. BOX 147,

LIVERPOOL L69 3BX, UK.

SOURCE: APPL ENVIRON MICROBIOL, (1991) 57 (8), 2121-2130.

CODEN: AEMIDF. ISSN: 0099-2240.

FILE SEGMENT: BA; OLD LANGUAGE: English

The thermophilic actinomycete Thermomonospora fusca produced endoxylanase, .alpha.-arabinofuranodsidase, .beta.-xylosidase, and acetal esterase activities maximally during growth on xylan. Growth yields on glucose, xylose, or arabinose were comparable, but production of endoxylansase and .beta.-oxylosidase was not induced on these substrates. The crude xylanase activity was thermostable and relatively resistant to end product inhibition by xylobiose and xylan hydrolysis products. Six proteins with xylanase activity were identified by zymogram analysis of isoelectric focusing gels, but only a 32-kDa protein exhibiting three isomeric forms could be purfied by fast protein liquid chromatography. Endoglucanases were also identified in carboxymethylcellulose-grown cultures, and their distinction from

endoxylanases was confirmed. .alpha.-Arabinofuranosidase activity was due to a single dimeric protein of 92 kDa, which was particularly resistant to end product inhibition by arabinose. Three bands of acetyl esterase activity were detected by zymogram analysis, and there was evidence that these mainly consisted of an intracellular 80-kDa protein secreted to yield active 40-kDa subunits in the culture supernatant. The acetyl esterases were found to be responsible for acetyl xylan esterase activity in T. fusca, in contrast to the distinction proposed in some other systems. The addition of purified .beta.-oxylosidase to endoxylanase increased the hydrolysis of xylan, probably by relieving end product inhibition. The enhanced saccharification of wheat straw caused by the addition of purified .alpha.-arabinofuranosidase to T. fusca endoxylanase suggested a truly synergistic relationship, in agreement with proposals that arabinose side groups on the xylan chain participate in cross-linking within the plant cell wall structure.

L8 ANSWER 10 OF 13 MEDLINE

ACCESSION NUMBER: 91131856 MEDLINE

DOCUMENT NUMBER: 91131856 PubMed ID: 2178175

TITLE: Role of rumen fungi in fiber degradation.

AUTHOR: Akin D E; Borneman W S

CORPORATE SOURCE: R. B. Russell Agricultural Research Center, USDA, Athens,

GA 30613.

SOURCE: JOURNAL OF DAIRY SCIENCE, (1990 Oct) 73 (10)

3023-32. Ref: 55

Journal code: HWV; 2985126R. ISSN: 0022-0302.

PUB. COUNTRY: United States

Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)

(REVIEW, TUTORIAL)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH. 100102

ENTRY MONTH: 199103

ENTRY DATE: Entered STN: 19910405

Last Updated on STN: 19910405 Entered Medline: 19910319

AR Anaerobic fungi inhabit the rumen and actively degrade plant cell walls. Rumen fungi produce high levels of cellulases and hemicellulases and are particularly proficient in producing xylanases. These enzymes are regulated by substrate (especially soluble sugars) available to the organisms. Fungi degrade unlignified (i.e., no histochemical reaction for phenolics) plant walls totally, indicating that enzymes are able to hydrolyze or solubilize the entire plant wall. These organisms are better able to colonize and degrade the lignin-containing tissues than are bacteria; phenolics are solubilized but not metabolized from the plant wall by fungi. Anaerobic fungi are unique among rumen microorganisms in that they penetrate the cuticle. Residues after incubation with fungi are physically weaker than those incubated with whole rumen fluid or with rumen bacteria, suggesting that fungi could alter the fibrous residue for easier mastication by the animal. Data indicate that cocultures of anaerobic fungi with methanogenic bacteria stimulate cellulose degradation; other data suggest that fungi are inhibited by certain rumen microorganisms. The interaction of rumen fungi with other organisms in relation to fiber degradation in the rumen requires additional study. Rumen fungi have the potential to degrade the more recalcitrant plant walls in forages, but this potential is not always reached in the rumen.

L8 ANSWER 11 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS DUPLICATE 3

ACCESSION NUMBER: 1990:381280 BIOSIS

DOCUMENT NUMBER: BA90:67961

TITLE: XYLANASE A NOVEL ELICITOR OF PATHOGENESIS-RELATED PROTEINS

IN TOBACCO USES A NON-ETHYLENE PATHWAY FOR INDUCTION.

AUTHOR(S): LOTAN T; FLUHR R

CORPORATE SOURCE: DEP. PLANT GENETICS, P.O. BOX 26, WEIZMANN INST. OF SCI.,

REHOVOT, ISRAEL 76100.

SOURCE: PLANT PHYSIOL (BETHESDA), (1990) 93 (2), 811-817.

CODEN: PLPHAY. ISSN: 0032-0889.

FILE SEGMENT: LANGUAGE: BA; OLD English

AB Antisera to acidic isoforms of pathogenesis-related proteins were used to measure the induction of these proteins in tobacco (Nicotiana tabacum) leaves. Endo-(1-4)-.beta.-

xylanase purified from culture filtrates of Trichoderma viride was a strong elicitor of pathogenesis-related protein synthesis in tobacco leaves. The synthesis of these proteins was localized to tissue at the area of enzyme application. The inhibitors of ethylene biosynthesis and ethylene action, 1-aminoethoxyvinylglycine and silver thiosulfate, inhibited accumulation of pathogenesis-related proteins induced by tobacco mosaic virus and .alpha.-aminobutyric acid, but did not inhibit elicitation by xylanase. Likewise, the induction of these proteins by the tobacco pathogen Pseudomonas syringae pv. tabaci was not affected by the inhibitors of ethylene biosynthesis and action. The leaf response to tobacco mosaic virus and .alpha.-aminobutyric acid was dependent on light in normal and photosynthetically incompetent leaves. In contrast, the response of leaves to sylanase was independent of light. Tobacco mosaic virus and .alpha.-aminobutyric acid induced concerted accumulation of pathogenesis-related proteins. However, xylanase elicited the accumulation of only a subset of these proteins. Specifically, the plant (1-3) - . beta. -glucanases, which are normally a part of the concerted response, were underrepresented. These experiments have revealed the presence of a novel ethylene-independent pathway for pathogenesis-related protein induction that is activated by xylanase.

L8 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 1990:265954 BIOSIS

DOCUMENT NUMBER:

BA90:8040

TITLE:

HOST-PATHOGEN INTERACTIONS XXXVI. PARTIAL PURIFICATION AND CHARACTERIZATION OF HEAT-LABILE MOLECULES SECRETED BY THE

RICE BLAST PATHOGEN THAT SOLUBILIZE PLANT CELL WALL

FRAGMENTS THAT KILL PLANT CELLS.

AUTHOR (S):

SOURCE:

BUCHELI P; DOARES S H; ALBERSHEIM P; DARVILL A

CORPORATE SOURCE:

COMPLEX CARBOHYDRATE RES. CENT. AND DEP. BIOCHEM., UNIV. GA., 220 RIVERBEND ROAD, ATHENS, GA. 30602, USA.

PHYSIOL MOL PLANT PATHOL, (1990) 36 (2), 159-174.

CODEN: PMPPEZ. ISSN: 0885-5765.

FILE SEGMENT:

BA; OLD English

LANGUAGE: Heat-labile factors capable of killing plant cells are secreted by the rice pathogen Magnaporthe grisea when grown on rice cell walls. Inhibition of [14C]-leucine incorporation into maize cells (Zea mays cv. Black Mexican Sweet) was shown to be as reliable as the vital dyes 2,3,5-triphenyltetrazolium chloride and fluorescein diacetate for assessing cell viability. The heat-labile factors responsible for killing plant cells were partially purified by CM-Sephadex and Superose 12 chromatography. A combination of four of the Superose 12 column fractions synergistically killed the plant cells; the killing activity of the combined fractions was 2.5 times as high as that obtained by the sum of the four fractions assayed individually. We purified to apparent homogeneity pectin lyase (PL), pectin methylesterase (PME), and xylanase from the fungal culture filtrate. When these enzymes were tested in various combinations and at the same concentrations as they were found in the culture filtrate, they did not kill plant cells. The same enzymes were not able to release fragments that killed plant cells from isolated maize cell walls, whereas fractions containing the partially purified heat-labile killing activity rapidly released heat-stable maize cell wall fragments that killed maize cells. The results of this study indicate that a heat-labile killing activity secreted by M. grisea, which probably consists of two or more factors (presumably proteins), solubilizes from maize cell walls heat-stable fragments (presumably carbohydrates) that kill maize cells. Furthermore, although pectic enzymes may prove to be necessary for killing, the pectic enzymes in the culture filtrate of M. grisea do not, by themselves, kill maize cells.

L8' ANSWER 13 OF 13 PROMT COPYRIGHT 2001 Gale Group

ACCESSION NUMBER: 81:302 PROMT

TITLE: Gulf Oil Co will build a 2,000 tpd cellulose-to-ethanol

plant by 1983 for commercial operation.

SOURCE: Chemtech, (Oct 1980) pp. 10-6141.

LANGUAGE: English

AB The plant will use agricultural byproducts, industrial and municipal wastes and forest wastes as feedstock. Microbial pretreatments of the feedstock include ligninase- and xylanase-producing organisms. Mechanical pretreatments include hammer, rod, roller and ball mills, mullors and attritors. Chemical pretreatments include acid, base, cadmium oxide, dimethyl sulfoxide, ethylenediamine and tartrate. The next step in the direct ethanol process in enzyme production uses a mutant strain of Tricholerma reesei, which is grown continuously to produce a complete cellulase system. Residence time is 48 hrs. Enzyme production begins on a spore plate with subsequent scale-up to 300-gal enzyme reactors. Yeast production must be compatible with the cellulase system, with optimum temperature of 40 C for the combined cellulase and yeast systems. Simultaneous saccharification/fermentation (SSF) increases ethanol yield by 25-40%, due to removal of products formed during saccharification that inhibit the cellulase system. A slurry stripper recovers the ethanol. The SSF mash is pumped directly into a stripping column, which strips the alcohol using an upward flow of steam. About 25 wt % ethanol concentration is obtained in this step. The material can be upgraded through a normal rectification system to industrial, motor or pharmaceutical grade ethanol.

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Today's Date: 10/31/2001

DB Name	Query	Hit Count	Set Name
USPT,PGPB	112 and 18	44	<u>L14</u>
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USPT,PGPB	111 and (protein or glycoprotein)	110	<u>L12</u>
USPT,PGPB	110 and @ad<19970430	127	<u>L11</u>
USPT,PGPB	19 and plant	280	<u>L10</u>
USPT,PGPB	xylanase\$1 and inhibit\$7	443	<u>L9</u>
USPT,PGPB	17 or 16 or 15 or 14 or 13 or 12 or 11	8338	<u>L8</u>
USPT,PGPB	(((530/375)!.CCLS.))	128	<u>L7</u>
USPT,PGPB	(((530/370)!.CCLS.))	412	<u>L6</u>
USPT,PGPB	(((530/350)!.CCLS.))	5925	<u>L5</u>
USPT,PGPB	(((435/410)!.CCLS.))	445	<u>L4</u>
USPT,PGPB	(((435/201)!.CCLS.))	339	<u>L3</u>
USPT,PGPB	(((435/200)!.CCLS.))	450	<u>L2</u>
USPT,PGPB	((435/183)!.CCLS.)	1102	<u>L1</u>

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Search Results - Record(s) 1 through 44 of 44 returned.

1. Document ID: US 6300114 B1

L14: Entry 1 of 44

File: USPT

Oct 9, 2001

US-PAT-NO: 6300114

DOCUMENT-IDENTIFIER: US 6300114 B1

TITLE: Sequences of xylanase and xylanase expression vectors

DATE-ISSUED: October 9, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mantyla; Aria	Helsinki			FIX
Paloheimo; Marja	Helsinki			FIX
Lantto; Raija	Klaukkala			FIX
Fagerstrom; Richard	Espoo			FIX
Lahtinen; Tarja	Vantaa			FIX
Suominen; Pirkko	Helsinki			FIX
Vehmaanpera; Jari	Espoo			FIX

US-CL-CURRENT: $\underline{435}/\underline{200}$; $\underline{435}/\underline{254.3}$, $\underline{435}/\underline{254.6}$, $\underline{435}/\underline{320.1}$, $\underline{536}/\underline{23.2}$

	Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draww Desc	Image
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2. Document ID: US 6146668 A

L14: Entry 2 of 44

File: USPT

Nov 14, 2000

US-PAT-NO: 6146668

DOCUMENT-IDENTIFIER: US 6146668 A

TITLE: Preparation of isoflavones from legumes

DATE-ISSUED: November 14, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kelly; Graham E. Northbridge AUX Huang; Jiu Li Lane Cove AUX Deacon-Shaw; Mark G. Koolewong AUX Waring; Mark A. Elanora Heights AUX

US-CL-CURRENT: $\underline{426}/\underline{46}$; $\underline{426}/\underline{48}$, $\underline{426}/\underline{52}$, $\underline{426}/\underline{634}$, $\underline{435}/\underline{125}$, $\underline{435}/\underline{200}$, $\underline{435}/\underline{272}$, $\underline{435}/\underline{68.1}$, $\underline{435}/76$

Full Title Citation Front Review Classification Date Reference

KWIC Draw, Desc Image

3. Document ID: US 6124117 A

L14: Entry 3 of 44

File: USPT

Sep 26, 2000

US-PAT-NO: 6124117

DOCUMENT-IDENTIFIER: US 6124117 A

TITLE: Polysaccharide binding fusion proteins and conjugates

DATE-ISSUED: September 26, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Kilburn; Douglas G. Vancouver CAX Miller; Robert C. North Vancouver CAX Warren; Richard A. J.

CAX Gilkes; Neil R. Vancouver CAX

US-CL-CURRENT: 435/69.1; 435/200, 435/252.3, 435/69.7, 536/23.2, 536/23.4

Vancouver

Full Title Citation Front Review Classification Date Reference KWMC | Draw Desc | Image |

4. Document ID: US 6096545 A

L14: Entry 4 of 44

File: USPT

Aug 1, 2000

US-PAT-NO: 6096545

DOCUMENT-IDENTIFIER: US 6096545 A

TITLE: Phosphate starvation-inducible proteins

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Lefebvre; Daniel D. Kingston CAX Malboobi; Mohammed A. Kingston CAX

US-CL-CURRENT: $\frac{435}{410}$; $\frac{435}{194}$, $\frac{435}{252.33}$, $\frac{435}{320.1}$, $\frac{536}{23.1}$, $\frac{536}{23.2}$, $\frac{536}{23.6}$

Full Title Citation Front Review Classification Date Reference KWMC Draw Desc Image

5. Document ID: US 5997913 A

L14: Entry 5 of 44 File: USPT Dec 7, 1999

DOCUMENT-IDENTIFIER: US 5997913 A

TITLE: Method enhancing flavor and aroma in foods by overexpression of

.beta.-glucosidase

DATE-ISSUED: December 7, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Fowler; Timothy Belmont CA
Barnett; Christopher C. South San Francisco CA
Shoemaker; Sharon Fairfield CA

US-CL-CURRENT: <u>426/15</u>; <u>426/52</u>, <u>435/200</u>, <u>435/256.3</u>, <u>435/256.7</u>, <u>536/23.2</u>, <u>536/24.3</u>, <u>435/254.4</u>,

Full Title Citation Front Review Classification Date Reference KIMC Draw Desc Image

6. Document ID: US 5989600 A

L14: Entry 6 of 44 File: USPT Nov 23, 1999

US-PAT-NO: 5989600

DOCUMENT-IDENTIFIER: US 5989600 A

TITLE: Method for improving the solubility of vegetable proteins

DATE-ISSUED: November 23, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Nielsen; Per Munk Bagsv.ae butted.rd DKX
Knap; Inge Helmer Bagsv.ae butted.rd DKX

US-CL-CURRENT: 426/52; 424/438, 424/439, 424/442, 424/94.2, 426/53, 426/54, 426/807,

<u>435/183</u>, <u>435/219</u>

Full Title Citation Front Review Classification Date Reference KWC Draw. Desc Image

7. Document ID: US 5962289 A

L14: Entry 7 of 44 File: USPT Oct 5, 1999

DOCUMENT-IDENTIFIER: US 5962289 A

TITLE: Polysaccharide binding fusion proteins and conjugates

DATE-ISSUED: October 5, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Kilburn; Douglas G. Vancouver CAX

Miller; Robert C. North Vancouver CAX

Warren; Richard A.J. Vancouver CAX

Gilkes; Neil R. Vancouver CAX

US-CL-CURRENT: $\underline{435}/\underline{179}$; $\underline{435}/\underline{177}$, $\underline{435}/\underline{178}$, $\underline{435}/\underline{195}$, $\underline{435}/\underline{200}$, $\underline{435}/\underline{209}$, $\underline{435}/\underline{4}$, $\underline{435}/\underline{69.1}$, 435/69.52, 435/69.7, 435/71.1, 435/803, 436/530, 530/402, 530/413, 530/808, 530/814

Full Title Citation Front Review Classification Date Reference

KMC Draw Desc Image

1 8. Document ID: US 5948682 A

L14: Entry 8 of 44 File: USPT

Sep 7, 1999

US-PAT-NO: 5948682

DOCUMENT-IDENTIFIER: US 5948682 A

TITLE: Preparation of heterologous proteins on oil bodies

DATE-ISSUED: September 7, 1999

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Moloney; Maurice M. Calgary CAX

US-CL-CURRENT: 435/483; 435/183, 435/214, 435/219, 435/254.2, 435/254.21, 435/320.1, 435/477, 435/69.1, 435/69.2, 435/69.4, 435/69.52, 435/69.6, 435/69.7, 435/69.8, $\frac{435}{70.1}$, $\frac{435}{71.1}$, $\frac{536}{23.2}$, $\frac{536}{23.4}$, $\frac{536}{23.52}$, $\frac{536}{23.6}$, $\frac{536}{24.1}$

Full Title Citation Front Review Classification Date Reference

KWMC | Draww Desc | Image |

9. Document ID: US 5948667 A

L14: Entry 9 of 44 File: USPT Sep 7, 1999

DOCUMENT-IDENTIFIER: US 5948667 A

TITLE: Xylanase obtained from an anaerobic fungus

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Cheng; Kuo-Joan Lethbridge CAX Selinger; Leonard B. Lethbridge CAX Liu; Jin-Hao Calgary CAX Hu; Youji Gulph Mills PA

Forsberg; Cecil Wallace Guelph CAX Moloney; Maurice M. Calgary CAX

US-CL-CURRENT: 435/200; 435/252.3, 435/254.11, 435/325, 536/23.2, 536/24.3

Full Title Citation Front Review Classification Date Reference KMC Draw Desc Image

10. Document ID: US 5939303 A

L14: Entry 10 of 44 File: USPT Aug 17, 1999

US-PAT-NO: 5939303

DOCUMENT-IDENTIFIER: US 5939303 A

TITLE: Phytases of ruminal microorganisms

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Cheng; Kuo Joan Lethbridge CAX Selinger; Leonard Brent Lethbridge CAX Yanke; Lindsey Jay Lethbridge CAX Bae; Hee Dong Seoul KRX Zhou; Luming Salt Lake City UT

Forsberg; Cecil Wallace Guelph CAX

US-CL-CURRENT: $\underline{435}/\underline{196}$; $\underline{424}/\underline{94.6}$, $\underline{426}/\underline{61}$, $\underline{426}/\underline{635}$, $\underline{435}/\underline{183}$, $\underline{435}/\underline{195}$

Full Title Citation Front Review Classification Date Reference KMC Draw. Desc Image

11. Document ID: US 5935836 A

L14: Entry 11 of 44 File: USPT Aug 10, 1999

DOCUMENT-IDENTIFIER: US 5935836 A

TITLE: Actinomadura xylanase sequences and methods of use

DATE-ISSUED: August 10, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Vehmaanpera ; Jari Espoo FIX Mantyla ; Arja Helsinki FIX Fagerstrom; Richard Espoo FIX Lantto; Raija Klaukkala FIX Paloheimo; Marja Helsinki FIX Suominen; Pirkko Helsinki FIX

US-CL-CURRENT: 435/200; 435/277, 435/278, 530/412

Full Title Citation Front Review Classification Date Reference KMC Draw Desc Image

12. Document ID: US 5928917 A

L14: Entry 12 of 44

File: USPT

Jul 27, 1999

US-PAT-NO: 5928917

DOCUMENT-IDENTIFIER: US 5928917 A

TITLE: Conjugate of non-protein chemical moiety and polypeptide having cellulose

binding region

DATE-ISSUED: July 27, 1999

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kilburn; Douglas G. Vancouver CAX Miller; Robert C. North Vancouver CAX Gilkes; Neil Vancouver CAX Warren; R. Antony J. Vancouver CAX

Full Title Citation Front Review Classification Date Reference KMC Draw Desc Image

13. Document ID: US 5891669 A

L14: Entry 13 of 44 File: USPT Apr 6, 1999

DOCUMENT-IDENTIFIER: US 5891669 A

TITLE: Methods for producing polypeptides in respiratory-deficient cells

DATE-ISSUED: April 6, 1999

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY
Jensen; Ejner Bech Virum DKX

Cherry; Joel R. Davis CA Elrod; Susan L. Davis CA

 $\begin{array}{c} \text{US-CL-CURRENT: } \underline{435/69.1}; \ \underline{435/193}, \ \underline{435/190}, \ \underline{435/193}, \ \underline{435/198}, \ \underline{435/199}, \ \underline{435/201}, \ \underline{$

Full Title Citation Front Review Classification Date Reference

KWMC | Draw Desc | Image |

14. Document ID: US 5874308 A

L14: Entry 14 of 44

File: USPT

Feb 23, 1999

US-PAT-NO: 5874308

DOCUMENT-IDENTIFIER: US 5874308 A

TITLE: Compositions and methods for modulating cell proliferation using growth factor-polysaccharide binding fusion proteins

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kilburn; Douglas G. Vancouver CAX Humphries; Keith R. Vancouver CAX Doheny; James G. Vancouver CAX Jervis; Eric Vancouver CAX Alimonti; Judie Vancouver CAX

US-CL-CURRENT: $\frac{435}{395}$; $\frac{435}{383}$, $\frac{435}{384}$, $\frac{435}{385}$, $\frac{435}{386}$, $\frac{435}{386}$, $\frac{435}{387}$, $\frac{514}{2}$, $\frac{530}{350}$, $\frac{530}{351}$, $\frac{530}{351}$, $\frac{530}{387.1}$, $\frac{530}{399}$

Full Title Citation Front Review Classification Date Reference

KVMC | Draw, Desc | Image

☐ 15. Document ID: US 5871966 A

L14: Entry 15 of 44

File: USPT

Feb 16, 1999

DOCUMENT-IDENTIFIER: US 5871966 A

TITLE: Enzyme with endo-1,3(4)-.beta.- Glucanase activity

DATE-ISSUED: February 16, 1999

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kofod; Lene Venke Upperl.o slashed.se DKX Andersen; Lene Nonboe Birker.o slashed.d DKX Kauppinen; Markus Sakari K.o slashed.benhavn N DKX Christgau; Stephan Gentofte DKX Dalb.o slashed.ge; Henrik Virum DKX Olsen; Hans Sejr Holte DKX Breinholt; Jens Bagsv.ae butted.rd DKX

US-CL-CURRENT: 435/74; 435/200, 435/201, 435/274, 435/277

Full Title Citation Front Review Classification Date Reference

KWMC Draw Desc Image

16. Document ID: US 5866526 A

L14: Entry 16 of 44 File: USPT Feb 2, 1999

US-PAT-NO: 5866526

DOCUMENT-IDENTIFIER: US 5866526 A

TITLE: Enzyme preparation comprising a modified enzyme

DATE-ISSUED: February 2, 1999

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Olsen; Arne Agerlin Virum DKX Svendsen: Allan Birker.o slashed.d DKX Borch; Kim Copenhagen K DKX Lund; Henrik Copenhagen N DKX Thellersen; Marianne Frederiksberg C DKX Rosholm; Peter Pentaling Jaya MYX Munk; Niels Frederiksberg F DKX

US-CL-CURRENT: $\underline{510}/\underline{392}$; $\underline{426}/\underline{53}$, $\underline{426}/\underline{54}$, $\underline{435}/\underline{189}$, $\underline{435}/\underline{198}$, $\underline{435}/\underline{201}$, $\underline{435}/\underline{202}$, $\underline{435}/\underline{203}$, $\underline{435}/\underline{204}$, $\underline{435}/\underline{205}$, $\underline{435}/\underline{209}$, $\underline{510}/\underline{530}$

Full Title Citation Front Review Classification Date Reference KVMC Draw. Desc Image

17. Document ID: US 5837515 A

L14: Entry 17 of 44 File: USPT Nov 17, 1998

DOCUMENT-IDENTIFIER: US 5837515 A

TITLE: Enzyme preparations and methods for their production

DATE-ISSUED: November 17, 1998

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Helsinki Suominen; Pirkko FIX North Epping Nevalainen; Helena AUX Saarelainen; Ritva Helsinki FIX Paloheimo; Marja Helsinki FIX Fagerstrom; Richard Espoo FIX

US-CL-CURRENT: 435/200; 435/252.3, 435/254.11, 435/254.6, 435/320.1, 435/325, 536/23.2,

536/23.74

Full Title Citation Front Review Classification Date Reference KMC Draw. Desc Image

18. Document ID: US 5834301 A

L14: Entry 18 of 44 File: USPT Nov 10, 1998

US-PAT-NO: 5834301

DOCUMENT-IDENTIFIER: US 5834301 A

TITLE: Method of removing color from kraft wood pulps

DATE-ISSUED: November 10, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Jeffries; Thomas W.MadisonWIGrabski; Anthony C.MadisonWIPatel; Rajesh N.LouisvilleKY

Elegir; Graziano Milan ITX Szakacs; George Budapest HUX

US-CL-CURRENT: <u>435/278</u>; <u>435/200</u>, <u>435/886</u>, <u>435/99</u>

Full Title Citation Front Review Classification Date Reference KWC Draw. Desc Image

19. Document ID: US 5817499 A

L14: Entry 19 of 44 File: USPT Oct 6, 1998

DOCUMENT-IDENTIFIER: US 5817499 A

TITLE: DNA encoding an enzyme with endoglucanase activity from Trichoderma harzianum

DATE-ISSUED: October 6, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Dalb.o slashed.ge; Henrik Virum DKX Christgau; Stephan Gentofte DKX Andersen; Lene Nonboe Birker.o slashed.d DKX Kofod; Lene Venke Ugerl.o slashed.se DKX Kauppinen; Markus Sakari Copenhagen DKX

US-CL-CURRENT: $\underline{435}/\underline{200}$; $\underline{435}/\underline{254.11}$, $\underline{435}/\underline{254.3}$, $\underline{435}/\underline{320.1}$, $\underline{435}/\underline{325}$, $\underline{536}/\underline{23.2}$

Full Title Citation Front Review Classification Date Reference

KMC Draw Desc Image

20. Document ID: US 5811291 A

L14: Entry 20 of 44

File: USPT

Sep 22, 1998

US-PAT-NO: 5811291

DOCUMENT-IDENTIFIER: US 5811291 A

TITLE: Enzyme with rhamnogalacturonase activity

DATE-ISSUED: September 22, 1998

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kofod; Lene Venke Uggerl.o slashed.se DKX Andersen; Lene Nonboe Birker.o slashed.d DKX Dalb.o slashed.ge; Henrik Virum DKX Kauppinen; Markus Sakari Copenhagen DKX Christgau; Stephan Vedb.o slashed.k DKX Heldt-Hansen; Hans Peter Virum DKX Christophersen; Claus Ringsted DKX Nielsen; Per Munk Hiller.o slashed.d DKX Voragen; Alphons Gerar Joseph Wageningen NLX Schols; Hendrik Arie Wageningen NLX

US-CL-CURRENT: $\frac{435}{275}$; $\frac{435}{200}$, $\frac{435}{208}$, $\frac{435}{274}$

Full Title Citation Front Review Classification Date Reference

KMMC Draw Desc Image

21. Document ID: US 5795962 A

L14: Entry 21 of 44

File: USPT

Aug 18, 1998

DOCUMENT-IDENTIFIER: US 5795962 A

TITLE: Horseshoe crab amebocyte lysate factor G subunit A

DATE-ISSUED: August 18, 1998

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Iwanaga; SadaakiFukuokaJPXMuta; TatsushiFukuokaJPXSeki; NoriakiFukuokaJPXOda; ToshioHigashiyamatoJPX

US-CL-CURRENT: 530/350; 435/226

Full Title Citation Front Review Classification Date Reference

KWIC Draw Desc Image

22. Document ID: US 5795764 A

L14: Entry 22 of 44 File: USPT Aug 18, 1998

US-PAT-NO: 5795764

DOCUMENT-IDENTIFIER: US 5795764 A

TITLE: Enzyme exhibiting mannanase activity

DATE-ISSUED: August 18, 1998

 ${\tt INVENTOR-INFORMATION:}$

CITY STATE ZIP CODE COUNTRY NAME Christgau; Stephan Vedbaek DKX Kofod; Lene Venke Ugerloese DKX Andersen; Lene Nonboe Birkeroed DKX Copenhagen DKX Kauppinen; Sakari DKX Heldt-Hansen; Hans Peter Virum Dalboege; Henrik Virum DKX

US-CL-CURRENT: 435/200; 435/252.3, 435/254.11, 435/254.3, 435/320.1, 536/23.2

Full Title Citation Front Review Classification Date Reference KMIC Draw. Desc Image

23. Document ID: US 5786196 A

L14: Entry 23 of 44 File: USPT Jul 28, 1998

DOCUMENT-IDENTIFIER: US 5786196 A

TITLE: Bacteria and enzymes for production of alternan fragments

DATE-ISSUED: July 28, 1998

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Cote; Gregory L.

Edwards

IL

Wyckoff; Herbert

Washington

IL

Biely; Peter

Bratislava

SKX

US-CL-CURRENT: $\frac{435}{208}$; $\frac{435}{195}$, $\frac{435}{200}$, $\frac{435}{210}$

Full Title Citation Front Review Classification Date Reference

KWIC Draw, Desc Image

24. Document ID: US 5736384 A

L14: Entry 24 of 44

File: USPT

Apr 7, 1998

US-PAT-NO: 5736384

DOCUMENT-IDENTIFIER: US 5736384 A

TITLE: Thermostable xylanase

DATE-ISSUED: April 7, 1998

INVENTOR - INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Fukunaga; Nobuyuki Tokyo JPX Iwasaki; Yuji Tokyo JPX Kono; Satoko Saitama JPX Kita; Yukio Tokyo JPX Izumi; Yoshiya Tokyo JPX

US-CL-CURRENT: <u>435/278</u>; <u>435/200</u>, <u>435/277</u>

Full Title Citation Front Review Classification Date Reference

KWIC Draw, Desc Image

25. Document ID: US 5714474 A

L14: Entry 25 of 44

File: USPT

Feb 3, 1998

DOCUMENT-IDENTIFIER: US 5714474 A

TITLE: Production of enzymes in seeds and their use

DATE-ISSUED: February 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP	CODE	COUNTRY
Van Ooijen; Albert J. J.	Voorburg				NLX
Rietveld; Krijn	Vlaardingen				NLX
Hoekema; Andreas	Oegstgeest				NLX
Pen; Jan	Leiden				NLX
Sijmons; Peter Christian	Amsterdam				NLX
Verwoerd; Teunis Cornelis	Leiden				NLX
Quax; Wilhemus Johannes	Voorschoten				NLX

US-CL-CURRENT: 514/44; 119/174, 426/20, 426/21, 426/629, 426/630, 426/635, 435/183, 435/196, 435/202, 435/69.1, 514/2

Full Title Citation Front Review Classification Date Reference

KWIC Draw, Desc Image

Jan 6, 1998

File: USPT

26. Document ID: US 5705375 A

L14: Entry 26 of 44

US-PAT-NO: 5705375

DOCUMENT-IDENTIFIER: US 5705375 A

TITLE: Transgenic plants having a modified carbohydrate content

DATE-ISSUED: January 6, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP COL	E COUNTRY
Van Ooyen; Albert Johannes Joseph	Voorburg			NLX
Rietveld; Krijn	Vlaardingen			NLX
Quax; Wilhelmus Johannes	Voorschoten			NLX
Van Den Elzen; Petrus Josephus Maria	Voorhout			NLX
Pen; Jan	Leiden			NLX
Hoekema; Andreas	Oegstgeest			NLX
Sijmons; Peter Christiaan	Amsterdam			NLX

US-CL-CURRENT: 800/284; 435/201, 435/202, 435/205, 435/252.3, 435/320.1, 435/375, 435/95, 435/96, 536/23.7, 536/24.1, 536/24.5, 800/288

Full Title Citation Front Review Classification Date Reference

KWMC Draw, Desc Image

27. Document ID: US 5702934 A

L14: Entry 27 of 44 File: USPT Dec 30, 1997

DOCUMENT-IDENTIFIER: US 5702934 A

TITLE: Processes for producing an enzyme

DATE-ISSUED: December 30, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Hastrup; Sven K.o slashed.benhavn V. DKX Branner; Sven Lyngby DKX J.o slashed.rgensen; Birthe Ravn S.o slashed.borg DKX Christensen; Tove Lyngby DKX J.o slashed.rgensen; Birgitte Bojer Kokkedal DKX Shuster; Jeffrey R. Davis CA Pleasant Hill Madden; Mark CA Moyer; Donna L. Davis CA Fuglsang; Claus

Copenhaven NV

File: USPT

US-CL-CURRENT: 435/183; 435/213, 435/223, 435/252.3, 435/252.31, 435/252.33, $\frac{435}{252.35}$, $\frac{435}{254.11}$, $\frac{435}{254.21}$, $\frac{435}{254.3}$, $\frac{435}{254.7}$, $\frac{435}{320.1}$, $\frac{435}{69.1}$, 435/71.1, 536/23.2

Full Title Citation Front Review Classification Date Reference

KMC Draw Desc Image

DKX

Dec 2, 1997

28. Document ID: US 5693518 A

L14: Entry 28 of 44

US-PAT-NO: 5693518

DOCUMENT-IDENTIFIER: US 5693518 A

TITLE: Enzymes with xylanase activity from Aspergillus aculeatus

DATE-ISSUED: December 2, 1997

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Kofod; Lene Venke Ugerloese DKX Kauppinen; Markus Sakari Copenhagen DKX Christgau; Stephan Vedbaek DKX Heldt-Hansen; Hans Peter Virum DKX Dalb.o slashed.ge; Henrik Esbjerg DKX Andersen; Lene Nonboe Birker.o slashed.d DKX Si; Joan Qi Klampenborg DKX Jacobsen; Tina Sejersg.ang.rd Copenhagen DKX Munk; Niels Frederiksberg DKX Mullertz; Anette Charlottenlund DKX

US-CL-CURRENT: 435/200; 435/252.3, 435/254.1, 435/254.2, 435/254.3, 435/320.1, <u>536/23.2</u>, <u>536/23.74</u>

Full Title Citation Front Review Classification Date Reference

KMC Draw Desc Image

L14: Entry 29 of 44

File: USPT

Jul 22, 1997

US-PAT-NO: 5650554

DOCUMENT-IDENTIFIER: US 5650554 A

TITLE: Oil-body proteins as carriers of high-value peptides in plants

DATE-ISSUED: July 22, 1997

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Moloney; Maurice

Calgary

CAX

 $\begin{array}{l} \text{US-CL-CURRENT: } & \underline{800/288}; & \underline{435/183}, & \underline{435/320.1}, & \underline{435/418}, & \underline{435/419}, & \underline{435/69.1}, & \underline{435/69.2}, \\ \underline{435/69.52}, & \underline{435/69.6}, & \underline{435/69.7}, & \underline{435/69.8}, & \underline{435/70.1}, & \underline{435/71.1}, & \underline{536/23.2}, & \underline{536/23.2}, \\ \underline{536/23.52}, & \underline{536/23.6}, & \underline{536/24.1}, & \underline{800/298}, & \underline{800/301}, & \underline{800/302} \end{array}$

Full Title Citation Front Review Classification Date Reference

KWMC Draw Desc Image

30. Document ID: US 5591619 A

L14: Entry 30 of 44

File: USPT

Jan 7, 1997

US-PAT-NO: 5591619

DOCUMENT-IDENTIFIER: US 5591619 A

TITLE: Aureobasidium pullulans xylanase, gene and signal sequence

DATE-ISSUED: January 7, 1997

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Xin-Liang; Li

Athens

GA

Ljungdahl; Lars G.

Athens

GA

US-CL-CURRENT: 435/201; 435/254.21, 435/69.1, 536/23.2, 536/23.4

Full Title Citation Front Review Classification Date Reference

KWMC Draws Desc Image

31. Document ID: US 5543576 A

L14: Entry 31 of 44

File: USPT

Aug 6, 1996

DOCUMENT-IDENTIFIER: US 5543576 A

TITLE: Production of enzymes in seeds and their use

DATE-ISSUED: August 6, 1996

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Voorburg van Ooijen; Albert J. J. NLXRietveld; Krijn Vlaardingen NLX Hoekema; Andreas Oegstgeest NLXPen; Jan Leiden NLX Sijmons; Peter C. Amsterdam NLX Verwoerd; Teunis C. Leiden NLX Quax; Wilhemus J. Voorschoten NLX

US-CL-CURRENT: 800/317.3; 426/531, 426/61, 426/635, 426/7, 435/195, 435/200, 435/200, 435/232, 435/233, 435/234, 435/68.1, 435/69.1, 435/94, 435/95

Full Title Citation Front Review Classification Date Reference

KWIC Draw Desc Image

32. Document ID: US 5498534 A

L14: Entry 32 of 44

File: USPT

Mar 12, 1996

US-PAT-NO: 5498534

DOCUMENT-IDENTIFIER: US 5498534 A

TITLE: Method of removing color from wood pulp using xylanase from streptomyces

roseiscleroticus NRRL B-11019

DATE-ISSUED: March 12, 1996

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Jeffries; Thomas W.MadisonWIGrabski; Anthony C.MadisonWIPatel; Rajesh N.LouisvilleKY

Elegir; Graziano Milan ITX Szakacs; George Dayka Gabor HUX

US-CL-CURRENT: 435/278; 435/200, 435/253.5, 435/886, 435/99

Full Title Citation Front Review Classification Date Reference KMIC Draw. Desc Image

□ 33. Document ID: US 5491087 A

L14: Entry 33 of 44 File: USPT Feb 13, 1996

DOCUMENT-IDENTIFIER: US 5491087 A

TITLE: Thermostable arabino furanoside produced by Bacillus stearothermophilus NRRL B-18659, Bacillus stearothermophilus NRRL B-18660 and Bacillus stearothermophilus NRRL B-18661

DATE-ISSUED: February 13, 1996

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Zamost; Bruce L.

Danbury

CT

Elm; Dana D.

Waterbury

CT

US-CL-CURRENT: 435/200; 435/252.5, 435/278, 435/832

Full Title Citation Front Review Classification Date Reference

KWC Draw Desc Image

34. Document ID: US 5489526 A

L14: Entry 34 of 44

File: USPT

Feb 6, 1996

US-PAT-NO: 5489526

DOCUMENT-IDENTIFIER: US 5489526 A

TITLE: Thermostable xylosidase produced by Bacillus stearothermophilus NRRL B-18659, Bacillus stearothermophilus NRRL B-18660 and Bacillus stearothermophilus NRRL B-18661

DATE-ISSUED: February 6, 1996

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Zamost; Bruce L.

Danbury

CT

Elm; Dana D.

Waterbury

CT

US-CL-CURRENT: <u>435/200</u>; <u>435/252.5</u>, <u>435/832</u>

Full Title Citation Front Review Classification Date Reference

KWMC Draw, Desc Image

35. Document ID: US 5474925 A

L14: Entry 35 of 44

File: USPT

Dec 12, 1995

US-PAT-NO: 5474925

DOCUMENT-IDENTIFIER: US 5474925 A

TITLE: Immobilized proteins in cotton fiber

DATE-ISSUED: December 12, 1995

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Maliyakal; John

Barton; Kenneth A.

Middleton

WI

Middleton

WI

US-CL-CURRENT: <u>800/287</u>; <u>435/183</u>, <u>435/468</u>, <u>435/69.1</u>, <u>435/70.1</u>, 536/24.1

36. Document ID: US 5445957 A

L14: Entry 36 of 44

File: USPT

Aug 29, 1995

US-PAT-NO: 5445957

DOCUMENT-IDENTIFIER: US 5445957 A

TITLE: Enzyme food supplement composition containing beta-fructofuranosidase, cellulase

and hemicellulase

DATE-ISSUED: August 29, 1995

INVENTOR-INFORMATION:

NAME

CITY

STATE ZIP CODE

COUNTRY

Rohde, Jr.; Rodger R.

Wayne

NJ

Schuler; Edward F.

Keswick

VA

Handel; Richard A.

Ridgewood

NJ

US-CL-CURRENT: $\frac{435}{200}$; $\frac{424}{551}$, $\frac{424}{94.2}$, $\frac{424}{94.6}$, $\frac{424}{94.61}$, $\frac{435}{198}$, $\frac{435}{209}$, $\frac{435}{219}$, $\frac{435}{225}$, $\frac{435}{99}$

Full Title Citation Front Review Classification Date Reference

KWIC Draw Desc Image

37. Document ID: US 5369024 A

L14: Entry 37 of 44

File: USPT

Nov 29, 1994

US-PAT-NO: 5369024

DOCUMENT-IDENTIFIER: US 5369024 A

TITLE: Xylanase from streptomyces roseiscleroticus NRRL-11019 for removing color from

kraft wood pulps

DATE-ISSUED: November 29, 1994

INVENTOR-INFORMATION:

NAME

CITY

STATE

ZIP CODE

COUNTRY

Jeffries; Thomas W.

Madison

WI

Grabski; Anthony C.

Madison

WI

Patel; Rajesh N.

Madison

WI

US-CL-CURRENT: 435/200; 435/253.5, 435/886

Full Title Citation Front Review Classification Date Reference

KMC Draw Desc Image

38. Document ID: US 5340731 A

L14: Entry 38 of 44

File: USPT

Aug 23, 1994

DOCUMENT-IDENTIFIER: US 5340731 A

TITLE: Method of preparing a B-1,4 glycan matrix containing a bound fusion protein

DATE-ISSUED: August 23, 1994

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Kilburn; Douglas G. Vancouver CAX
Miller; Robert C. North Vancouver CAX
Gilkes; Neil Vancouver CAX
Warren; R. Antony J. Vancouver CAX

Full Title Citation Front Review Classification Date Reference

KWMC Draw, Desc Image

39. Document ID: US 5298405 A

L14: Entry 39 of 44

File: USPT

Mar 29, 1994

US-PAT-NO: 5298405

DOCUMENT-IDENTIFIER: US 5298405 A

TITLE: Enzyme preparations with recombinantly-altered cellulose profiles and methods

for their production

DATE-ISSUED: March 29, 1994

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY Nevalainen; Helena Espoo FIX Knowles; Jonathan Helsinki FIX Suominen; Pirkko Vantaa FIX Pentilla; Merja Helsinki FIX Mantyla; Arja Espoo FIX

US-CL-CURRENT: $\underline{435/209}$; $\underline{435/200}$, $\underline{435/232}$, $\underline{435/252.3}$, $\underline{435/277}$, $\underline{435/278}$, $\underline{435/69.1}$

Full Title Citation Front Review Classification Date Reference

KWMC - Draw Desc - Image |

40. Document ID: US 5202249 A

L14: Entry 40 of 44

File: USPT

Apr 13, 1993

DOCUMENT-IDENTIFIER: US 5202249 A

TITLE: Xylanase for biobleaching

DATE-ISSUED: April 13, 1993

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Kluepfel; Dieter Montreal CAX

Morosoli; Rolf Ville St-Laurent CAX

Shareck; Francois Dollard-des-Ormeaux CAX

 $\text{US-CL-CURRENT: } \underline{435/201}; \ \underline{435/252.35}, \ \underline{435/278}, \ \underline{435/320.1}, \ \underline{435/69.1}, \ \underline{435/71.2}, \ \underline{435/886},$

536/23.2

Full Title Citation Front Review Classification Date Reference KMC Draw Desc Image

41. Document ID: US 5202247 A

L14: Entry 41 of 44 File: USPT Apr 13, 1993

US-PAT-NO: 5202247

DOCUMENT-IDENTIFIER: US 5202247 A

TITLE: Cellulose binding fusion proteins having a substrate binding region of cellulase

DATE-ISSUED: April 13, 1993

INVENTOR-INFORMATION:

NAME CITY ZIP CODE STATE COUNTRY Kilburn; Douglas G. Vancouver CAX Miller; Robert C. Vancouver CAX Warren; Richard A. J. Vancouver CAX Gilkes; Neil R. Vancouver CAX

US-CL-CURRENT: $\frac{435}{195}$; $\frac{435}{803}$, $\frac{435}{177}$, $\frac{435}{179}$, $\frac{435}{200}$, $\frac{435}{209}$, $\frac{435}{69.1}$, $\frac{435}{69.52}$, $\frac{435}{69.7}$, $\frac{435}{111}$, $\frac{435}{803}$, $\frac{530}{808}$, $\frac{530}{814}$

Full Title Citation Front Review Classification Date Reference KWC Draw Desc Image

42. Document ID: US 5116746 A

L14: Entry 42 of 44 File: USPT May 26, 1992

DOCUMENT-IDENTIFIER: US 5116746 A

TITLE: Cellulase-free endo-xylanase enzyme of use in pulp delignification

DATE-ISSUED: May 26, 1992

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Bernier; Roger L. Mississauga CAX
Kluepfel; Dieter Montreal CAX
Morosoli; Rolf Ville St-Laurent CAX
Shareck; Francois Dollard-des-Ormeaux CAX

US-CL-CURRENT: $\frac{435}{200}$; $\frac{162}{1}$, $\frac{435}{169}$, $\frac{435}{252.3}$, $\frac{435}{252.34}$, $\frac{435}{278}$, $\frac{435}{320.1}$, $\frac{435}{69.1}$, $\frac{435}{71.1}$, $\frac{435}{886}$, $\frac{536}{23.2}$

Full Title Citation Front Review Classification Date Reference

KWMC | Drawl Desc | Image |

43. Document ID: US 4956291 A

L14: Entry 43 of 44 File: USPT Sep 11, 1990

US-PAT-NO: 4956291

DOCUMENT-IDENTIFIER: US 4956291 A

TITLE: Method for production of cellulolytic enzymes and method for saccharification of

cellulosic materials therewith

DATE-ISSUED: September 11, 1990

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY
Yamanobe; Takashi Ibaraki JPX
Mitsuishi; Yasushi Ibaraki JPX
Takasaki; Yoshiyuki Chiba JPX

US-CL-CURRENT: 435/200; 435/209, 435/99

Full Title Citation Front Review Classification Date Reference KMC Draw. Desc Image

44. Document ID: US 4742005 A

L14: Entry 44 of 44 File: USPT May 3, 1988

DOCUMENT-IDENTIFIER: US 4742005 A

TITLE: Method for production of cellulolytic enzymes and method for saccharification of

cellulosic materials therewith

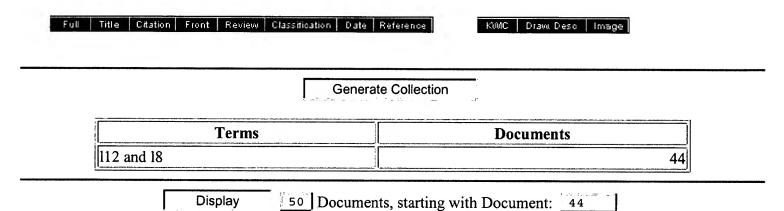
DATE-ISSUED: May 3, 1988

INVENTOR-INFORMATION:

NAME CITY STATE ZIP CODE COUNTRY

Yamanobe; Takashi Ibaraki JPX
Mitsuishi; Yasushi Ibaraki JPX
Takasaki; Yoshiyuki Matsudo JPX

US-CL-CURRENT: 435/99; 435/200, 435/209, 435/911



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